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ABSTRACT

Elementary education teacher candidates (n=62) proposed four criteria they used to identify a best lesson plan developed and taught for posting to their electronic portfolio. Criteria include a lesson that students enjoyed, learned from, actively participated in, and were involved in conducting research. The two criteria shared by all teacher candidates are: (1) a lesson that was liked by all the students, and (2) one from which they learned. Scoring with rubric and focusing on guided inquiry instruction, it was found that 86% of the lessons were evaluated as best by investigators. Patterns of strengths and weaknesses within the lessons were also found. Electronic portfolios can be used to demonstrate candidates' conceptions of their best lesson and should be accompanied by commentary identifying the rationale for those conceptions. (Contains 31 references.) (Author/BT)

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Running Head: Elementary e-portfolios

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Abstract

Elementary education teacher candidates identified four criteria they used to identify a "best" lesson plan they had developed and taught for posting to their electronic portfolio. Criteria include a lesson that students: liked, learned from, actively participated in, and were involved in carrying out research. Scoring with rubric focusing on guided inquiry instruction found 86% of the lessons were evaluated as best by investigators. Patterns of strengths and weaknesses within the lessons were also found. Electronic portfolios can be used to demonstrate candidates' conceptions of their best lesson and should be accompanied by commentary identifying the rationale for those conceptions.

The Construction of Criteria for Selecting Social Studies Lesson Plans for Electronic Portfolios

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Electronic portfolios are developed by many teacher candidates and require a considerable investment of time and effort on the part of both students and instructors (Beyerbach, Walsh & Vanetta, 2001). An electronic portfolio (e-portfolio) can be defined as a "purposeful collection of student work that exhibits the student's efforts, progress and achievements" (Lankes, 1998, p. 18). Often, the e-portfolio consists of artifacts, evidence, and reflections documenting what the developer knows and is able to do in the profession of teaching.

The e-portfolio differs from traditional portfolios in that information is collected, saved, and stored in an electronic format (Barrett, 1998). The electronic portfolio involves teacher candidates in the use of technology and may serve primarily as a means of enhancing technology skills (Wright, Stallworth, & Ray, 2002). However, some have argued that e-portfolios differ not just in format but also in capacity to foster authentic self-assessment because their developers can restructure the e-portfolio relatively quickly and enhance it using technological applications such as graphics (Herman & Morrell, 1999; Gatlin & Jacob, 2002).

It is evident that the role e-portfolios are playing in elementary social studies teacher education is not yet clear. The potentials of e-portfolios are also uncertain. There are many unanswered questions about best practices in the use of e-portfolios with elementary teacher candidates in social studies education even though advantages are suggested in the literature addressing e-portfolios in the broader context of teacher education. In this study we considered the problem of which social studies lessons elementary teacher candidates choose to put into their e-portfolio and what criteria guide their choices.

Electronic portfolios allow students to demonstrate problem-solving skills even as they are compelled to take responsibility for their learning (Barrett, 1997). Out of learner responsibility comes a degree of control over the learning process and over the process of becoming a teacher (Campbell, Cignetti, Melnyer, Nettles, & Wyman, 1997). It is not the technology itself, but rather the way in which teachers use the technology involved in the construction of e-portfolios that impacts teacher education (Campbell et al.).

Portfolios in teacher education, whether their format is electronic or traditional, have concentrated on use for student and for teacher assessment. In the context of student assessment, an emphasis is placed on *process*, on the collaboration between student and teacher that occurs with the documentation of the work (Mosenthal, 1994). In school classrooms, k-12 portfolio assessment involves a systematic collection and analysis of students' performances as indicators of their

development and learning (Valencia, 1990; Farr & Tone, 1994). This method of assessment is considered by some to be a more authentic measure then standardized measures of the teaching and learning that occurs in a classroom. Portfolio assessment can foster students' self-evaluations of their learning through stages of collection, selection, and reflection (Kieffer & Faust, 1994).

When used for teacher assessment, the emphasis is on *product* where the portfolio represents knowledge (Mosenthal, 1994). In teacher education, there is a duality since teacher candidates are still students so assessment of process is important, but they also function as teachers in clinical placements so assessment of product is important. Mosenthal (1994) discussed the dilemma of the portfolio's purpose in pre-service teacher education, considering whether it is to serve as "some measure of mastery of a body of knowledge explicitly communicated in course instruction and assessments, or whether its purpose is to express practical knowledge" (Mosenthal, p. 407).

The research on electronic portfolios finds benefits to be gained from their use with teacher candidates, as does the research on traditional portfolios (Herman & Morrell, 1999; Polonoli, 2000; Wright, Wilson, & Stallworth, 2002). An obstacle to e-portfolios is the investment of time and effort by teacher candidates and teachers (Linn & Baker, 1992; Cole, Ryan, Kick, & Mathies, 2000). Despite this obstacle, Herman and Morrell (1999) ascertained that e-portfolios encourage teacher candidates to review the values they hold about teaching and to identify important elements of the learning process. Bull, Montgomery, Overton, and Kimball (1999) noted that e-portfolios promote learner self-evaluation even as they maximize the use of diverse learning strategies. Teacher candidates have been found to demonstrate problem solving skills even as they are compelled to take responsibility for their learning when constructing e-portfolios (Barrett, 1997). Electronic portfolios have also been found to encourage teacher candidates to demonstrate problem solving and critical thinking skills using authentic and performance based assessment (Campbell, Cignetti, Melenyzer, Nettles, & Wyman, 1997; Meyer, 1992).

Teacher candidates make decisions and must analyze information and demonstrate a body of knowledge while developing their electronic portfolios (Herman & Morrell, 1999). Throughout the process, then, portfolio developers are actively involved in their own assessment (Cole, et al., 2000). It has been argued (Sherbet, 1997) that the primary reason for the construction of an electronic portfolio is to provide a tool to enlighten teacher candidates about those parts of being a professional that include self-monitoring and taking responsibility for assessing one's own accomplishments and skills.

The effective use of electronic portfolios requires ongoing evaluation both on the part of the instructor and of the developer (Barrett, 1998; Cole et al., 2000). The central advantage of all portfolios, not just electronic, is that the instructor is able to assess the student's process of learning (Cole et al.) Evaluation requiring teamwork, creative thinking, and reflection, goes beyond the limits of the traditional classroom (Bull et al., 1999). It can be argued, thus, that electronic portfolios shift the balance from teacher-centered learning to student-centered learning (Herman & Morrell, 1999). Multiple sources of evaluation combined with self-evaluation encourage

teacher candidates to recognize and address individual strengths and weaknesses (Barrett, 2000; Corbett-Perez & Dorman, 1999; Herman & Morrell).

Elementary teacher candidates are likely to develop electronic portfolios addressing the multiple subjects they teach in their teacher education program, therefore, social studies can be expected to be one of the major areas included. This study began with the questions, "What social studies lessons do elementary teacher candidates choose to put into their electronic portfolio?" and "Why?" Then the study focused further on the questions of, "How do elementary education teacher candidates construct and use criteria that enable them to identify a social studies lesson plan for inclusion in their electronic portfolio?" and "How do elementary education teacher candidates rationalize their selection of a social studies lesson plan for their electronic portfolios?" The purpose of this study is to explore and identify implications for best practices in using electronic portfolios in elementary teacher education social studies methods courses as an avenue for reflection and documentation of personal and professional growth.

Methods

This study involved 62 elementary education teacher candidates constituting two cohorts (n=31 per cohort) who were participating in a social studies methods course blocked with four other courses during the semester prior to their internship. In addition to courses taken on campus, the teacher candidates completed 240 hours in a 3-day per week clinical placement over a ten week period,with two full weeks at the end of the semester. These participants had been randomly assigned to a cohort in a 4-semester upper division program in elementary education during their junior and senior years and were participating in semester 3 of the program during the study. They had been introduced to elements of lesson planning in the prior two semesters and had worked in a clinical placement one day per week in semester 1 and two days per week in semester 2. During semester 3, they were introduced to inquiry teaching. During semester 4 they were in schools full time.

Teacher candidates developed and implemented guided inquiry social studies lesson plans following the learning cycle model during this semester (Sunal & Haas, 2002; Sunal & Sunal, 2003). The social studies methods course's conceptual framework is rooted in constructivist pedagogy and reflective practices that facilitate teacher candidates' construction of their own knowledge.

These teacher candidates develop and teach individual social studies lessons, then construct a social studies unit that is taught during their two full weeks in the clinical placement at the end of the semester. A focus of coursework in this semester is building competence in linking individual lessons into a coordinated and sequential set of lessons constituting a unit. Teacher candidates select a theme based on national and state standards. They also develop and teach a science unit that addresses the same theme, therefore, themes such as "change and continuity" or "decision-making skills" are utilized.

Data were collected in relation to a self-selected social studies lesson plan placed on their electronic portfolio at the end of the semester by each of the 62 teacher candidates. The teacher candidates were asked to select the lesson they

thought was their "best" during the semester and to place it on their e-portfolio. These social studies lessons had been taught. Students prepared a commentary responding to the question, "Why did you pick this lesson to place on your electronic portfolio as your best social studies lesson plan?" Threads were identified within the commentaries by three investigators and compared through consideration of supporting evidence to achieve a consensus (Miles & Huberman, 1984).

A 29-item rubric, designed to score guided inquiry learning cycle lesson plans (Sunal & Sunal, 2003) was used to evaluate all social studies lesson plans written during the semester. A learning cycle structures a sequence of activities in a lesson designed to help students make conceptual change. It begins with students' exploration of new social studies information, a skill, or an attitude. This exploration leads to a more guided examination of the idea, skill, or attitude through inquiry. It culminates in expanding the use of the idea, skill, or attitude through application in new settings. Because of the characteristics of each phase of the lesson, these three parts can be called: exploratory introduction, development, and expansion. This inductive approach applying information processing models (Weil & Joyce, 1978) has been called the learning cycle (Sunal, Sunal & Haas, 1996; Sunal & Haas, 2002; Sunal & Sunal, 2003).

Three scorers evaluated each of the nine social studies lesson plans written and taught by every teacher candidate achieving .93 inter-rater reliability using the Kappa coefficient method of calculating the reliability of categorical data. Kappa coefficient estimates the proportion of agreement among raters after chance agreement has been removed. The 29 items on the rubric were scored with a 1 if present, complete, accurate, and such that another teacher can use this part of the lesson plan as written, or with a 0 if absent. Scorers were three elementary education faculty members who had taught the social studies methods course and previously scored lesson plans. However, none of these scorers had taught these teacher candidates in the social studies methods classes and none had input into the development of these lesson plans. The scorers knew that these were lesson plans that had been developed and taught during the previous semester. The rating scale contains 4 parts (Sunal & Sunal, 2003). Part 1 has 5 items examining the background for the lesson plan. Part 2 contains 11 items examining the exploratory introduction phase of the lesson plan. Part 3 has 7 items examining the development phase of the plan. Part 4 has 6 items examining the expansion phase. Teacher candidates had a complete description of the components of effective learning cycle lesson plans and access to previously developed and taught good examples of such lesson plans.

Finally, the researchers examined the internal components of the lesson plans considering whether there were threads among these components within the lessons placed on the e-portfolios.

Random assignment was not a concern in this study since there was only one group. Therefore, the use of inferential statistics with a convenience sample such as this one is possible but limitations must be considered. An important limitation of this study was that the results were obtained from a relatively small population that was geographically limited. So, the extent to which the findings presented in this paper generalize to other students enrolled in undergraduate social studies methods coursework is a question for which additional research must be done.

Results

Teacher Candidates' Description of Criteria

The two most common threads found among the criteria described for selection of a "best" lesson plan for inclusion on the electronic portfolio were found in all teacher candidate commentaries. These were a lesson they thought their students liked and one that resulted in learning. Liking a lesson was almost unanimously associated with, as one teacher candidate said, "having fun with it." Slightly more than half of the subjects described lesson characteristics that led to their conclusion that the lesson met their criterion of students having fun with it. The characteristics identified included: an opportunity for students to work together in small cooperative groups (75% of those identifying characteristics); an open-ended format enabling students to "be creative" (60%); and a lesson where the "learning was hidden" because students were involved in an active investigation of a problem (60%). Of those subjects identifying the characteristics that enabled students to have fun, most named more than one of these three characteristics. Of the subjects noting that a lesson was fun for students when learning was hidden, few explained this characteristic. When explanations were given, however, they focused on the lack of lecture, no use of a textbook and worksheets, and the incorporation of opportunities for investigation of a problem or issue.

The second thread identified was the criterion of students' learning from the lesson. This criterion was rarely explained by the teacher candidates in their commentary with just 10% doing so. One teacher candidate clearly identified the kinds of learning resulting from a lesson utilizing a map of the state. She indicated students created new symbols they thought the existing map needed, enthusiastically located landforms on the map, and then applied their discoveries to a new map of the state that each made. She noted that each student focused on a theme in the map made with some focusing on landforms, some on the highway system, some on major landmarks in the state, and so on.

A third thread identified by 70% of the teacher candidates was a high level of student involvement and active participation in the lesson. This corresponds with the characteristic of participation identified in thread one as important to the criterion of a lesson that is fun for the students. It also corresponded with the few comments explaining thread two since active student participation appeared in all thread two explanations of learning from the lesson. In explaining her criterion of active involvement and participation, one teacher candidate noted her students, "were not used to this style of lessons (a learning cycle lesson plan for guided inquiry), but reacted to it perfectly because each one was guaranteed the ability to participate." Another described her lesson as one focusing on decision-making and stated that the students found the lesson "important" partly because the context of the lesson required the participation of each student. A third teacher candidate discussed her use of Readers Theatre within a guided inquiry social studies lesson that served to involve every student.

The fourth thread, identified by 40% of the teacher candidates, was students' involvement in research and data collection. This was mostly described in conjunction with the criterion of participation. However, these teacher candidates discussed students

"doing research" as a specialized form of participation. The research included library research, survey research, and other forms of data collection by students. These subjects saw it as a type of participation but used it as a criterion for a "best" lesson separate from cooperative group activities and other participation that may not have deeply involved students in research and data collection.

Although not a criterion for best lesson, teacher candidates noted that their best lesson typically involved the use of lots of materials. Because of heavy materials usage, one said, "The only downfall of it was the long time span I spent collecting the materials for the students." Others also indicated this was a burden in what they deemed as good social studies teaching.

In summary, the four threads identified as criteria were a lesson: they thought their students liked, that resulted in learning, that had a high level of student involvement and active participation, and that involved students in research and data collection.

The lesson chosen to post on the e-portfolio was one from their teaching unit among 86% of the teacher candidates. Others chose lessons written and taught earlier in the semester, noting that they found this earlier lesson best met the criteria they were establishing. For example, one student said,

> Even though I don't think this lesson followed the lesson plan format that well, it worked for my class. It kept the students attention and I felt like they learned something. This was a lesson in which I read them a biography and they really got interested in the person and we had a long discussion about him.

Lesson Plan Analysis

Teacher candidates identified and posted 86% of the lessons that were scored by the evaluators as their "best" lesson when using the lesson plan rubric with the subject's social studies lesson plans. When examining the internal components of the lesson plans for threads among them, the lessons posted were found to be consistently strong in the expansion, or last, phase of the lesson. There was an appropriate transition from the previous lesson development phase. The transition led to learning activities providing additional practice with the new concept or skill and additional time and experiences for constructing these new ideas. The learning activities helped students apply the new concept or skill in relevant situations that differed from that in which it was initially developed. Students had opportunities to review, compare, and contrast prior conceptions with the new constructs, new skills, related constructs, or related skills. The concept or skill was extended to other related concepts or skills. The lesson finished with a summary in which students briefly described its activities and the focus of the lesson.

A second thread identified was a strength found in the first phase, or exploratory introduction, in approximately half of the lessons. The lessons with strength in this phase secured the attention of students quickly and related the content or skill focus of the lesson to their prior experiences. The key idea of the lesson was clearly presented usually as an open, divergent question and was congruent with the goal(s) of the lesson. This question served to orient students to the purpose and objective(s) of the lesson. Learning activities in this phase of the lesson allowed students to test and confront their prior knowledge through trying out existing ideas,

predicting outcomes, and constructing tentative hypotheses. These were motivating and relevant activities. During learning activities, students interacted with ideas and materials that enabled them to begin their own inquiries about the key question. So, there was minimal guidance or expectation from the teacher. Adequate time was available for students to relate their prior knowledge to the new concept or skill. The learning activities in this exploratory phase of the lesson allowed the teacher to assess and diagnose students' present understanding.

A third thread, identified in 27% of the lessons posted was a strength in identifying the background and planning the overall characteristics of the lesson. These lessons clearly identified a key idea containing goals derived from national and state social studies standards. Objectives throughout the lesson were consistent with the phase of the lesson plan that was underway. The content was age appropriate and the materials and activities were appropriate to that content and to the goals of the lesson.

A fourth thread was the generally weak lesson development phase. Just 7% of the lessons were scored as accomplishing all components of this phase. Those components not addressed were mixed with no patterns that could be ascertained. Seven components were considered. First, there was a logical transition from the first (exploratory introduction) phase of the lesson that built upon activities in that first phase. Second, data collected in phase 1 of the lesson were shared and an interpretive discussion about the concept or skill followed. Third, the concept or skill was appropriately labeled and described through teacher- and/or student-led discussion. Fourth, discussion of prior experiences with the concept or skill, including those of the exploratory introduction was encouraged and accompanied by the provision of examples and non-examples. Fifth, a variety of learning experiences were provided to explain and illustrate the skill. Sixth, students were encouraged to construct the concept or skill from those learning experiences. Seventh, students and teacher actively described the concept or skill to provide closure on its initial development and to identify any problems the students might still have in constructing that concept or skill.

Conclusions and Implications

The results of this study indicate that elementary education teacher candidates share a set of criteria they use to select their "best" social studies lesson plan for posting on their electronic portfolio. The two criteria shared by all the teacher candidates, however, are broad and vague: a lesson that was liked by the students and one from which they learned. Additional definition clarified the first criterion but not the second one. The third and fourth criteria were less broad than the first two: a high level of student involvement and active participation and student involvement in research and data collection. The third criterion was identified by 70% while 40% identified the fourth criterion. Both of these criteria were related in that the fourth criterion could be considered a subset of the third. However, the 40% of these teacher candidates explicitly separating out the fourth criterion stated that there are forms of participation other than those in which students do research. The findings indicate that these teacher candidates are cognizant of values they hold about teaching and that

these values incorporate what they consider to be some important elements of the learning process in social studies, such as active student participation and divergent activities allowing for student creativity. These findings support Herman and Morrell's (1999) conclusion that e-portfolios can encourage teacher candidates to review their teaching values and identify important elements.

The results indicate that these teacher candidates appear to be in a transitional period of conceptual change even though their commentaries show reflection on teaching values and important elements of instruction. While they reflect on their lessons, they do so with criteria representing a mix of specificity and global views. The very specificity found when they further define criterion one and with criteria three and four indicate that they recognize and have implemented lessons incorporating some definition of quality social studies instruction they have constructed. However, researchers have found that conceptual change is typically lengthy with a long period of transition in which new ideas are applied inconsistently and may be vaguely articulated (Watson, Prieto, & Dillon, 1997; Sunal & Sunal, 2003). Accommodation does not occur across all contexts at the same time.

Concepts have been described as continuously developing over many dimensions and, in theory, their development is never ending (White, 1991). Conceptual change includes elements such as developing precision in using relevant language, replacing aspects of the old ideas with aspects of the new, incorporation of the new concept, and sometimes retention of aspects of both the old and the new simultaneously (Watson et al., 1996; Garnett, Garnett, & Hackling, 1995). Conceptual change, therefore, has been explained as a dynamic process occurring over a period of time (Tyson, Venville, Harrison & Treagust, 1997). This dynamic process takes into consideration the pre-instructional conceptions of the teacher candidate, the content to which the teacher candidate has been introduced, and the path between them as a teacher candidate constructs learning about social studies education. Since the conceptual change process is a complex one as an individual struggles to accommodate the concept within different contexts, it can be expected to be a lengthy process in teacher education. This study considered process concepts used to explain how an event is structured (Chi, Slotta & deLeeuw, 1994). Process concepts as found in the planning and implementing of lesson are constraint-based interactions. Conceptual change can be expected to be lengthier and more often inconsistently applied with process concepts.

Since individual teacher candidates have experienced limited schooling contexts and tend to view those experiences only from a student's, not a teacher's perspective, teacher educators must consider how to support candidates' usage and application of ideas about quality social studies teaching to less familiar contexts. This may be of particular importance in social studies education with its frequent reports of poor quality teaching (Afflerbach & VanSledright, 2001) indicating that many teacher candidates have limited exemplars of good social studies teaching within their personal experiences.

A high level of agreement (86%) was found among evaluators and teacher candidates regarding which lesson represented the "best" lesson. The evaluators used criteria represented in a rubric to make their determination while the subjects developed their own criteria independently. However, influences from their social studies methods

class appear to be evident since there is such strong agreement. While these teacher candidates certainly articulated their criteria with a mix of specificity and globalness, it appears they have begun to construct the criteria represented in the scoring rubric. However, the uneven success found when the lesson plan rubric's four major areas were considered indicates that conceptual change is uneven. These teacher candidates were better able to plan some phases of the lesson plan than others. They were neither uniformly excellent nor uniformly weak among all parts of the lesson planning.

The plans were chosen by the teacher candidates after having taught them and were evaluated by the scorers with the knowledge that they had been taught. It can be expected that the scorers were not influenced by knowledge that these lesson plans had been taught since they did not have contact with the students during the semester in which they were developed and taught. On the other hand, it is appropriate to expect that teaching the lesson impacted the teacher candidates who experienced students' responses to, and participation in the lessons. Therefore, the subjects' perception of students' positive responses to the lesson would influence their determination of the "best" lesson. The teacher candidate's commentaries support this conclusion since all of them give comments about that the lesson they selected such as these by three of the candidates, "enjoyed by the students," "really got their attention and even their smiles," and "generated enthusiasm and a wanting to know more."

Does the choice of a lesson to post on the electronic portfolio differ from that chosen for a traditional portfolio? This study did not compare such choices but a recommendation is that such a comparison be made in a future study. However, in examining teacher candidates' responses, it is evident that none of these subjects chose a lesson because it would display well using the capabilities of an electronic portfolio. For example, none of the lessons put on the portfolio included "bells and whistles" that could be imported through the technology such as extensive graphics, streaming video, or music in the background although about 15% of the candidates had taught lessons with these components in a PowerPoint presentation. All lessons included the URL's of websites that were used as resources to support the lesson. All of the subjects used variation in color and style of heading and simple graphic designs such as borders within their portfolio. The usage of these simple technological applications agrees with Gatlin and Jacob (2000) and Herman and Morrell (1999) who argue that e-portfolios enable their developers to highlight and enhance various components of the e-portfolio. Analysis of enhancements should be compared to hard copy or electronic versions done prior to posting on an e-portfolio. Such highlighting and enhancement can focus the viewer's attention of specific components. Since the scorers could have been influenced by highlighting or other enhancements they scored a hard-copy version of the lesson plan that had been given to the course instructor prior to its posting on the e-portfolio.

The electronic portfolio lends itself to posting comments, reflections, or a rationale along with a lesson plan. So, these teacher candidates could have used this opportunity to demonstrate how they have grown in their ability to identify areas within a lesson plan needing revision and discussing what revisions could be made even in a lesson identified as their best. However, this approach requires confidence in one's teaching as well as a willingness to identify problem areas. While these subjects had extensive clinical experience in classrooms, they were not yet ready to use the electronic portfolio as a place in which they critiqued themselves in terms of where change was

needed. Researchers have argued that e-portfolios lend themselves to self-assessment because of the developer's ability to easily revise the e-portfolio stimulating a continuing interaction with the portfolio that should generate problem-solving. While this study finds indications of such self-assessment in an e-portfolio, more research is needed to examine factors facilitating and limiting elementary teacher candidates' self-assessment is social studies education.

Evidence was found that these teacher candidates perceived quality social studies instruction as involving active participation, heavy use of materials and resources, active student research, and discussion of issues of interest to students. These are qualities consistent with the literature in social studies education. These subjects conceived of their portfolio as demonstrating a product, their lesson plan, but regarded that plan as evidence of the processes underway in their teaching. There was a combination of commentary referring to the body of knowledge taught in their social studies methods course as well as commentary on practical knowledge (Mosenthal, 1994).

The construction of electronic portfolios represents an initiative in many teacher education programs that is part of the effort to implement technology into elementary social studies teacher education. This study indicates some directions that best practices for social studies education e-portfolios might take. The identification of their personal criteria for selecting lesson plans for placement on the e-portfolio appears to be one important component. Because the criteria developed always included references to students' engagement with the lesson, e-portfolios should contain lesson plans that have been taught. Further research could include a commentary from teacher candidates on the rationale for the technological effects used when placing lesson plans on the portfolio. Finally, comparisons of criteria should be made between e-portfolio social studies lesson plans and those from other areas such as science, mathematics, and literacy to consider whether there are differences between those chosen. This study indicates that electronic portfolios have value as a tool of authentic assessment in demonstrating teacher candidates' desired outcomes and rationale for selecting guided inquiry lesson plans that they implemented in their clinical placements.

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